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WEATHER MAP OF THE ST. LOUIS TORNADO.

THE Weather Bureau has issued what it calls a 'souvenir' weather map of the St. Louis tornado of May 27th. The sheet is of small size (8 in. by 10 in.). On one side there is a map showing the weather conditions over the United States on the evening of May 27th, with the tornado districts indicated by red crosses, and with brief descriptive text beneath. On the reverse side is an explanation of the wind, weather and temperature signals of the Bureau.

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NOTES UPON AGRICULTURE AND HORTICULTURE, VIII.

POTATO CULTURE.

WITHIN the past month no less than six bulletins have been issued by as many Stations upon potato culture or some phase of it.

HASTENING MATURITY OF POTATOES.

'HASTENING maturity' is the sub-title of bulletin No. 36 from the Rhode Island Station. Three methods of bringing about an earlier crop are considered and one in detail, as it has been tested at the Station. Director Flagg and Mr. Tucker write: "Maturity may be hastened in three ways. (a) By planting sets in pots in a greenhouse and transplanting to open ground; (b) by sprouting, that is planting sets thickly in a cold frame, and when ready to break ground transplanting them to the field, and (c) by building." For the latter small potatoes the size of hen's eggs are given heat and light for six weeks or so before planting time, thus causing a strong bud to develop and roots to form. The budded potatoes are placed in the field with the care given to onion sets, etc. A gain of 32 bushels per acre was obtained by this method over the ordinary way of planting.

CRIMSON CLOVER GOOD FOR POTATOES.

IN Bulletin No. 38 of the Maryland Station, Director Miller and Mr. Brinkley find that crimson clover plowed under increased the yield in 1894 thirty-six and in 1895 fifty per cent. Ridge and level culture have given the same results, and also deep and shallow cultivation proved of equal value. Spraying four times with Bordeaux mixture to prevent blight doubled the crop.

POTASH FOR POTATOES.

AT the Kentucky Station (Bulletin No. 61) Director Scovell found that potash was the most profitable commercial fertilizer to use, while the nitrates and phosphates were sometimes used at a financial loss. Several tests were made to check the scab; but here is an instance in which it is a misfortune for the enemy to fail to appear anywhere in the field and the results are postponed thereby.

SCAB AND INTERNAL BROWN ROT.

PROFESSOR GREEN in Minnesota Station Bulletin No. 45 reports that the subsoiling of heavy clay land increases somewhat the yield of potatoes. Considerable space is given, with engravings, to the report upon treatment for scab. The germ theory, or fungous nature of the disease is recognized in full, for it is stated that: "Perfectly clean seed planted on land which is free from scab fungus will always and in any season produce a crop of smooth clean potatoes, no matter what the character of the land. * * * Land infected by the germs of this disease will produce a more or less scabby crop, no matter how clean and smooth the seed is." It is recommended to dig scabby potatoes as soon as ripe, because the scab continues to grow so long as the potatoes are in the ground.

The internal brown rot works at the center of the potato, and all thus infested

should be discarded as seed. The cause of this trouble is not given.

EARLY AND LATE POTATO BLIGHTS.

BULLETIN 113 of the Cornell, N. Y., Station treats only of the diseases of the potato, giving several illustrations of these troubles and one colorotype plate of blight. Two leaves are shown in this, one of the 'early Blight' and the other of the 'late blight.' The former is due to the fungus *Macrosporium Solani*, E. & M., and the latter to *Phytophthora infestans*, DeBy, a downy mildew which, when affecting the tubers, produces the potato rot, an old enemy in Europe, where it has caused famines, as in Ireland in 1846. Prof. Lodeman draws largely upon the literature of this blight, mentioning its rapid growth in and destruction of the attacked vines and the disagreeable odor of the ruined potatoes. The germ tube from the spore secretes a ferment that dissolves the cell wall of the host, and permits the parasite to pass through. The term 'late blight' came from the fact that the *Phytophthora* does not usually appear before August. The early blight comes sooner in the season, and usually the fungus follows after some injury, frequently the work of flea beetles. The earlier plantings of the same variety are the more affected by this blight.

Bordeaux is a satisfactory remedy for the late blight and a promising one for the early blight.

The cause of the scab is considered and the corrosive sublimate both highly recommended with the precaution that it be not used so strong as to injure the seed.

VARIETY TESTING OF POTATOES.

BULLETIN 65 Ohio Station is devoted to the comparison of varieties of potatoes and experiments with fertilizers, by Profs. Green and McFadden. They maintain that variety trials are of much value only when the sorts are tested under several sets

of conditions. It is the summing up of sets of trials that brings results of practical importance. Thus the three varieties that have averaged highest at the central and both sub-stations in Ohio are American Wonder, Columbus and Irish Daisy. Varieties that are the least influenced by variations of soil, climate, etc., they claim are the most valuable.

GOVERNMENT FARMERS' BULLETIN UPON POTATOES.

IN addition to the above station bulletin the United States Department of Agriculture has issued a farmers' bulletin (No. 35) upon Potato Culture, by Mr. Duggar with the following sub-heads: Soil and rotation, manuring, varieties, planting, change of seed, side of seed pieces, distance in the row, mulching, storing, with a lengthy summary. This is a remarkably comprehensive, condensed and clear exposition of potato culture.

The impression at least is gained from the above notes that the potato is fully recognized by experimenters as a leading crop in the country and likewise a subject that is many sided and as yet far too little understood.

BYRON D. HALSTED.

SCIENTIFIC NOTES AND NEWS.

SIR JOSEPH PRESTWICH.

AT the meeting of the Geological Society of London, on June 24th, the President, Dr. Henry Hicks, said: It is with deep regret that I have to announce to you the death of our dear and much-beloved friend, Sir Joseph Prestwich. He was elected into the Society in the year 1833, and we had come to look upon him as the father of our Society. He served it as Treasurer and President and was one of its Wollaston Medallists, and we feel that by his death our Society loses one of its truest friends. He always gave us of his best, and delighted to communicate his knowledge to his fellow workers. He was in every respect a typical representative of our Society and its objects, for he passionately loved the science, fearlessly